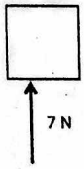
Name: _____ Per: _____

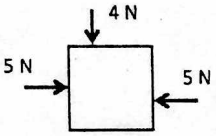
# Force & Motion WS 2

Given the following force diagrams, find the net force's direction and magnitude and draw that on the provided box.

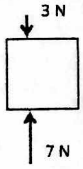
1.



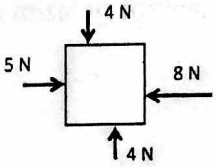

2.



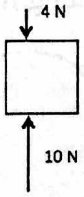

3.



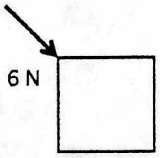

4.



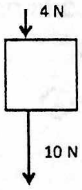

5.



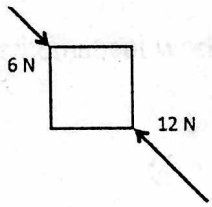

6.




7.




8.



**PHYSICAL SCIENCE**

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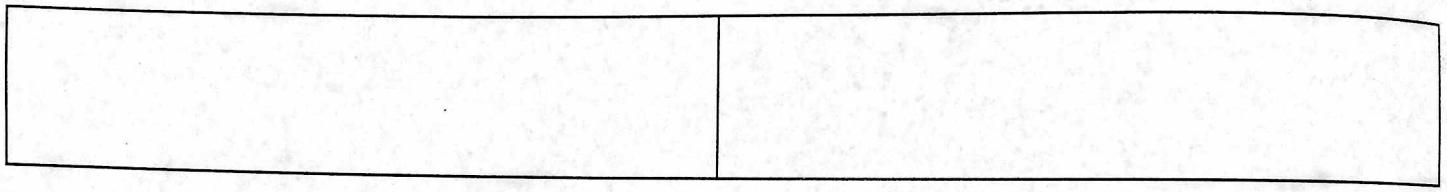
Assume each box represents an object at rest prior to any forces acting on them.

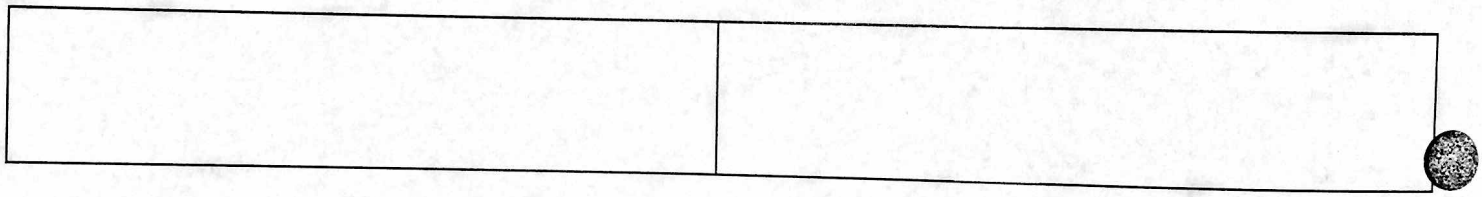
A. Redraw the net force found from the front side of the worksheet.

B. Describe what the resulting motion would be.

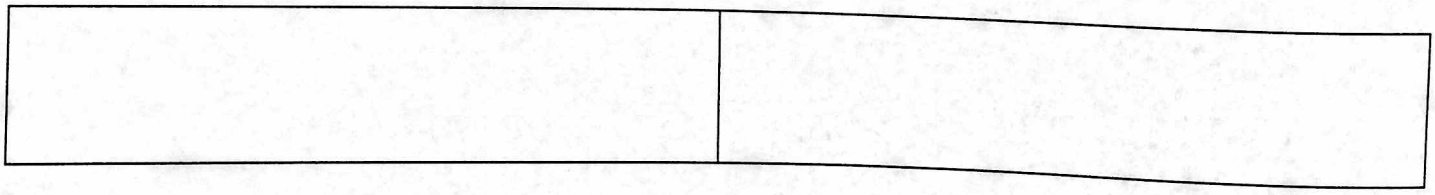
1. 



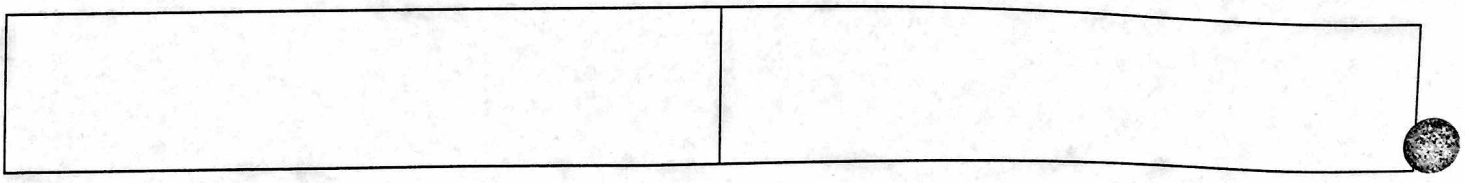
2. 



3. 



4. 



5. 

6. 

7. 

8. 

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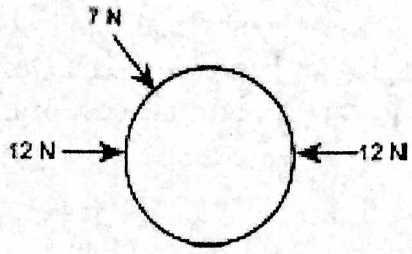
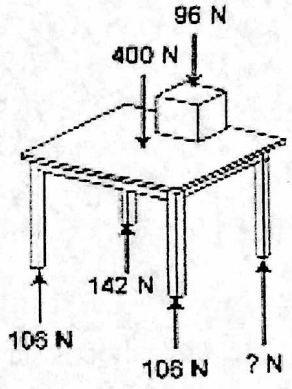
For each free-body diagram, supply the force or forces necessary to achieve equilibrium.

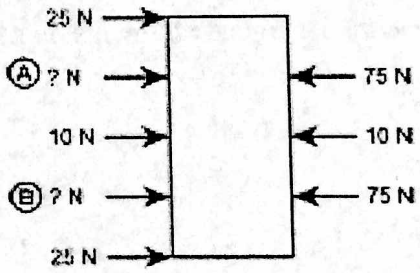
9. Draw a force arrow, and write in the force's value.



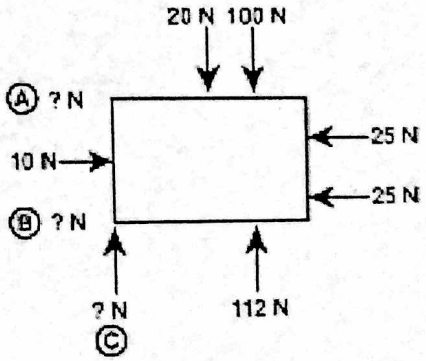

10. Supply the missing force. Show all mathematical work.




11. Distribute the unknown forces evenly to prevent rotation. Show all mathematical work.




12. Supply the missing forces. Have force A & B be equal. Show all mathematical work.



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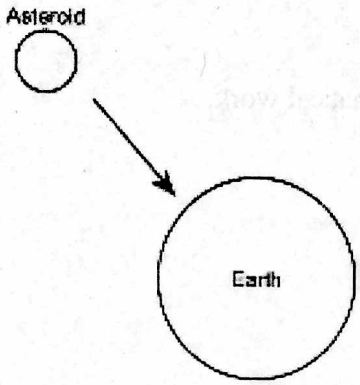
13. Here is the classic "asteroid destroys Earth" scenario. The momentum of the asteroid is beyond the forces that even thermonuclear bombs might apply to stop its approach. Assuming that you can apply only modest forces, where might they best be applied to result in a new acceleration that will, as they say, "save the world"? Draw an arrow to show the best location on the asteroid to apply force so that it avoids hitting Earth.




14. Helium balloons stay the same size as you hold them, but swell and burst as they rise to high altitudes when you let them go. Draw and label force arrows inside and/or outside the balloons on the graphic at right to show why the near Earth balloon does not burst, but the high altitude balloon does eventually burst.

What are the forces on the inside of the balloon?

What are the forces on the outside of the balloons?